

## ABSTRACT

In accordance with the present invention, a method for corneal laser surgery includes the step of first prescribing the size, shape and location of a lentoid of stromal tissue to be removed in order to correct the vision of a patient. Next, a contoured corneal flap having an interior surface and peripheral edge is created wherein the interior surface of the flap is shaped to conform to the prescribed anterior surface of the lentoid. To create the flap, the focal point of a pulsed laser beam is moved within the intrastromal tissue to photoalter a layer of tissue in the shape of the interior surface and the peripheral edge of the flap. Once created, the flap can be lifted to expose a bed of intrastromal tissue. Then, an excimer laser can be used to photoalter the bed of intrastromal tissue in a predetermined manner, thus creating a void in the shape of the prescribed lentoid. Finally, the flap can be repositioned over the lentoid shaped void and allowed to heal. The result is a reshaped cornea that effectively corrects a patient's vision impairment.

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